

ABSTRACT OF THE DISCLOSURE

A power supply samples a rectified AC-input waveform and a regulated output voltage and combines them to control an AC-to-DC converter. The operating frequency and/or pulse width modulation of a switched-mode power supply are in large part fixed by a highly filtered output feedback signal to maintain a desired output voltage. A sample taken from the AC-input rectifiers is used in another feedback control signal to drive the operating frequency and/or pulse width modulation slightly up and down as a function of the rise and fall of each rectified-waveform sinusoid. The power delivered to the output, and thus the power demand on the input rise and fall with the instantaneous voltage of the AC input sinusoid. So the power factor is controlled by drawing current in-step with the voltage waveform.